IN THE CLAIMS

I.

1.-41. (previously canceled)

42.-73. (canceled herein)

74. (new) A method of screening a patient perioperatively to determine a risk for complications during a surgical procedure associated with known genetic variations comprising:

a) obtaining a sample from a perioperative subject, said perioperative subject being a patient scheduled for a surgical procedure that has not yet completed said surgical procedure; and

b) subjecting said sample to an assay for detecting two or more nucleic acid genetic markers in two or more genes associated with two or more conditions to generate a genomic profile for use in selecting a perioperative course of action, wherein said subjecting step occurs after said patient is scheduled for surgery but before completion of said surgical procedure, thereby determining a risk for complications during said surgical procedure.

75. (new) The method of Claim 74, wherein said course of action comprises administration of anesthesia during a surgical procedure.

76. (new) The method of Claim 75, wherein said surgical procedure is non-invasive surgery.

77. (new) The method of Claim 75, wherein said surgical procedure is invasive surgery.

78. (new) The method of Claim 74, wherein said course of action comprises administration of anesthesia during a medical procedure.

79. (new) The method of Claim 74, wherein said genomic profile comprises information pertaining to a pharmacodynamic risk.

80. (new) The method of Claim 74, wherein said genomic profile comprises information pertaining to a pharmacokinetic risk.

81. (new) The method of Claim 74, wherein said genomic profile comprises a presymptomatic diagnosis.

82. (new) The method of Claim 74, wherein said genomic profile comprises information pertaining to differential diagnosis of co-existing diseases.

83. (new) The method of Claim 74, wherein said two or more nucleic acid genetic markers comprise mutations in two or more genes, said genes selected from the group consisting of *BChE*, *CYP2D6*, *MTHFR*, *MTR*, *CBS*, *F2*, *F5*, *RYR1*, *CACNA1S*, and *CPT2*.

84. (new) The method of Claim 83, wherein said two or more nucleic acid genetic markers comprise 5 or more mutations in two or more genes.

85. (new) The method of Claim 83, where in said two or more nucleic acid genetic markers comprise 10 or more mutations in two or more genes.

86. (new) The method of Claim 74, further comprising the step of:

c) using said genomic profile for selection of conditions for a surgical procedure carried out on said patient.

87. (new) A method for selecting conditions for a surgical procedure by screening a patient perioperatively to determine a risk for complications during a surgical procedure associated with known genetic variations comprising:

a) providing a sample from a perioperative subject, said perioperative subject being a patient scheduled for a surgical procedure that has not yet completed said surgical procedure; and

b) subjecting said sample to an assay for detecting two or more nucleic acid genetic markers in two or more genes known to be associated with two or

more perioperative phenotypes to generate a genomic profile for use in selecting a surgical procedure treatment course of action; and

c) subjecting said subject to a surgical procedure.

88. (new) The method of Claim 87, wherein said genetic markers are associated with a pharmacological response.

89. (new) The method of Claim 88, wherein said pharmacological response is to an anesthetic.

90. (new) The method of Claim 88, wherein said pharmacological response is to drugs used in anesthetic practice.

91. (new) The method of Claim 87, wherein said two or more nucleic acid genetic markers comprises a mutation in two or more genes associated with two or more conditions, said genes selected from the group consisting of *BChE, CYP2D6, MTHFR, MS, CBS, F2, F5, RYR1, CACNA1S, and CPT 2.*

92. (new) The method of claim 91, wherein said two or more nucleic acid genetic markers comprises 5 or more mutations in two or more genes.

93. (new) The method of claim 91, wherein said two or more nucleic acid genetic markers comprises 10 or more mutations in two or more genes.

94. (new) A method of screening a patient perioperatively to determine a risk for complications during a surgical procedure from known genetic variations comprising:

a) obtaining a sample from a perioperative subject, said perioperative subject being a patient scheduled for a surgical procedure that has not yet completed said surgical procedure; and

b) subjecting said sample to an assay for detecting two or more nucleic acid genetic markers in two or more genes clinically associated with two or more

conditions selected from the group consisting of butyrylcholinesterase deficiency, impaired debrisoquine metabolism, thrombosis, and malignant hyperthermia to generate a genomic profile, wherein said genomic profile provides information for use by a physician in determining a risk for complications during a surgical procedure.

95. (new) The method of Claim 94, wherein said course of action comprises administration of anesthesia during a surgical procedure.

96. (new) The method of Claim 96, wherein said surgical procedure is non-invasive surgery.

97. (new) The method of Claim 96, wherein said surgical procedure is invasive surgery.

98. (new) The method of Claim 94, further comprising the step of:

c) using said genomic profile for selection of conditions for a surgical procedure carried out on said patient.

99. (new) The method of Claim 94, wherein the said two or more nucleic acid genetic markers comprises 5 or more mutations in two or more genes.

100. (new) The method of Claim 94, wherein the said two or more nucleic acid genetic markers comprises 10 or more mutations in two or more genes.

101. (new) A method of screening a patient perioperatively to determine a risk for complications during a surgical procedure from known genetic variations comprising:

a) obtaining a sample from a perioperative subject, said perioperative subject being a patient scheduled for a surgical procedure that has not yet completed said surgical procedure; and

b) subjecting said sample to an assay for detecting two or more nucleic acid genetic markers in two or more genes clinically associated with

butyrylcholinesterase deficiency and impaired debrisoquine metabolism to generate a genomic profile, wherein said genomic profile provides information for use by a physician in determining a risk for complications during a surgical procedure.

102. (new) A method for selecting an appropriate anesthesia treatment during surgery, comprising:

a) providing a sample from a perioperative subject, said perioperative subject being a patient scheduled for a surgical procedure that has not yet completed said surgical procedure; and

b) subjecting said sample to an assay that detects a first marker in a first gene and a second marker in a second gene to generate assay results, wherein said markers are known to be associated with adverse responses to anesthesia treatment;

c) subjecting said subject to a surgical procedure, wherein said assay results are consulted in selecting an appropriate anesthesia treatment for said subject.

103. (new) The method of Claim 102, wherein said selecting comprises selection of dosages of anesthesia.

104. (new) The method of Claim 102, wherein said selecting comprises selection of anesthesia compounds.

105. (new) The method of Claim 102, wherein said selecting comprises selection of monitoring procedures.